

CLAIMS

I CLAIM:

1. The method of interfacing a transducer element to a communication
network comprising:

providing an adaptable transducer interface comprising a programmable
transducer interface controller for connecting to the transducer element and a programmable
network interface controller for connecting to the communication network, the transducer
interface controller being operatively connected to the network interface controller;

receiving user selectable transducer information identifying operating
characteristics of the transducer element;

receiving user selectable operator interface information identifying display
parameters interactively arranged for displaying operating data of the transducer element;

generating a transducer interface program for converting transducer element
operating characteristics to user data and storing the transducer interface program in the
transducer interface controller; and

generating a network interface program based on the display parameters for
creating screen displays using the user data and storing the network interface program in the
network interface controller,

the adaptable transducer interface being useable to remotely interface with
the transducer element over the communication network.

2. The method of claim 1 wherein receiving user selectable transducer
information identifying operating characteristics of the transducer element comprises
receiving user entered information.

3. The method of claim 1 wherein receiving user selectable transducer
information identifying operating characteristics of the transducer element comprises
providing user selectable options for operating characteristics of the transducer element and
the user selects from the user selectable options.

4. The method of claim 3 wherein the user selectable options comprise
a selection of types of transducer sensors.

5. The method of claim 3 wherein the user selectable options comprise
a selection of types of transducer actuators.

6. The method of claim 1 wherein receiving user selectable operator
interface information identifying display parameters interactively arranged for displaying
operating data of the transducer element comprises receiving user entered information.

7. The method of claim 1 wherein receiving user selectable operator
interface information identifying display parameters interactively arranged for displaying

operating data of the transducer element comprises providing user selectable options for
4 display parameters and the user selects from the user selectable options.

8. The method of claim 1 wherein generating a transducer interface
2 program comprises combining preconfigured software modules selected based on the
received user selectable transducer operating characteristics.

9. The method of claim 8 wherein storing the transducer interface
2 program in the transducer interface controller comprises downloading the preconfigured
software modules to the transducer interface controller.

10. The method of claim 1 wherein generating a network interface
2 program comprises customizing stored HTML web pages.

11. The method of claim 1 wherein generating a network interface
2 program comprises creating Java Applets based on the display parameters.

12. The method of claim 1 further comprising creating a product label for
2 the adaptable transducer interface using the user selectable transducer information and the
user selectable operator interface information.

13. The method of claim 1 wherein providing an adaptable transducer
interface comprising a programmable transducer interface controller for connecting to the
transducer element comprises providing a microcontroller, a memory and a transducer
interface circuit.

14. The method of claim 1 wherein providing an adaptable transducer
interface comprising a programmable network interface controller for connecting to the
communication network comprises providing an embedded microweb server.

15. The method of claim 1 wherein the transducer interface controller is
operatively connected to the network interface controller using a transducer independent
interface.

16. A user adaptable transducer interface for interfacing a transducer
2 element having a signal interface connection to a communication network comprising:

4 a programmable transducer interface controller having terminations for
connecting to the signal interface connection of the transducer element;

6 a programmable network interface controller for connecting to the
communication network, the network interface controller being operatively connected to the
transducer interface controller;

8 a user configured transducer interface program stored in the transducer
interface controller for converting user selected transducer operating characteristics to user
10 data; and

12 a user configured network interface program stored in the network interface
controller for creating screen displays based on user select display parameters using the user
data;

14 the programmable network interface controller being connectable to the
communication network to provide a remote interface with the transducer element over the
16 communication network.

17. The transducer interface of claim 16 wherein the user configured
2 network interface program identifies display parameters interactively arranged for
displaying operating data of the transducer element.

18. The transducer interface of claim 16 wherein the transducer interface
program comprises combined preconfigured software modules selected based on the
received user selectable transducer operating characteristics.

19. The transducer interface of claim 16 wherein the network interface
program comprises customized HTML web pages.

20. The transducer interface of claim 16 wherein the network interface
program comprises Java Applets based on the display parameters

21. The transducer interface of claim 16 wherein the programmable
transducer interface controller comprises providing a microcontroller, a memory and a
transducer interface circuit.

22. The transducer interface of claim 16 wherein the programmable
network interface controller comprises an embedded microweb server.